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This nation is rapidly becoming an urbanized society and the rate of producing trained physicians is not increasing rapidly enough to keep up with the population explosion. This creates a problem for rural areas because, despite the many innovative efforts to entice physicians to establish a rural practice, new physicians are concentrated in the urban areas. However, the problem of inadequate rural health services is not hopeless if the small communities will take advantage of those people in their community who have some background and experience in health services. Such local services, aided by modern technology, can have a very positive effect on the health service problem in rural America. In addition, the passing of recent Federal legislation aimed at area-wide planned health services can further alleviate this recognized problem. (DB)

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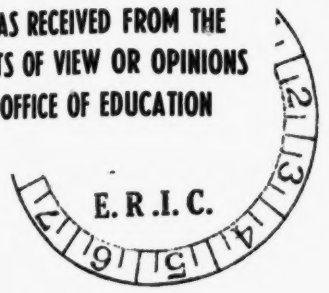

"MEDICAL MANPOWER FOR RURAL AREAS"*

Harold Margulies, M.D.

In 1928 when our family really needed the one physician in Jackson County, South Dakota, somehow we could locate him. He might not be in his office in Kadoka, but could be found elsewhere by Randy Olson, the telephone operator, or anyone else who listened in on the party lines. When he was out he liked to travel on one of the few gravel highways, but usually couldn't. In wet weather the dirt roads became gumbo, a hellish combination of clay and grease which could imprison even a Model A Ford, chains and all. There was no hospital in the County, but those who were desperately ill could be driven 90 hazardous miles to Pierre, to its hospital, and the famous Dr. Riggs.

I vaguely remember the onset of my typhoid fever, but remember nothing of the journey to Pierre. Only later did I learn that a middle-aged man who also lived in Kadoka had the same illness but remained at home and died. My parents could see me in Pierre during the following weeks when the roads were passable -- they were able to get there just once while I was in coma. I do remember being told that my recovery occurred only because of skilled nursing care, in retrospect I am sure that was true, there was no specific treatment.

By 1968, Kadoka, unaltered in size, again had the one physician in

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all of Jackson County which still had no hospital for its 1900 citizens. The interstate highway had cut travel time so that facilities in Rapid City, over 100 miles away, were easily reached. A much nearer 20-bed community hospital could be used for emergencies. On a recent visit, I could find no one in Kadoka I knew as a child. I did talk with some old acquaintances who had moved to Rapid City, and they told me of others who had scattered all over the nation. Those who remained are, by 40-year old criteria, better served medically than were the families I knew as a child. By present standards, however, they are precariously served, yet there are more remote towns to the north and south which have reason to envy Kadoka.

I have looked back to the prairies of South Dakota for more than an incident in my medical history. It is my earliest and most recent view of rural America, perhaps so sharply familiar to you and to me that no further reminder is needed. In a variety of forms -- sometimes exotic, often drab -- I have, since my youth, witnessed the paradoxical isolation and swift change in rural life everywhere. For several years, I was directly concerned with the health needs of Pakistan and later with a number of African and Asian nations, stretching from Tunisia to India and down through Ethiopia. There, as here, shortages of health services are a source of deep concern. The differences between those countries and ours are chiefly a matter of degree, but, in the U.S., acceptable solutions are within reach.

Forty years ago people in Kadoka knew medical care elsewhere was better, as were the roads, houses, and schools. They accepted these disadvantages stoically, just as they tolerated Arctic blizzards and

blast-furnace summer winds. Now, they want and have a better life -- if not in Kadoka, then wherever it can be found -- frequently in distant cities. Today rural America knows that a farmer's broken arm should heal straight, that a good physician also needs a good laboratory, that early treatment can shorten disability and prevent death, and that medical miracles are performed even in far-off Africa. They know that all Americans are supposed to have equal rights, that laws have been passed to extend these rights to include decent medical care, and that many are benefiting in ways they are not. Their expectations remain modest, they do not expect a Mayo Clinic in every county seat, but they want modern care provided them when it is needed. They are less concerned about the costs than they are the availability of medical treatment. Sorrowfully, they also understand why they cannot attract physicians and nurses. They have seen too many of their own children depart, and, some of the old-timers as well.

The city and its suburbs offer much more to the skilled than to the unskilled. Shortages of health manpower are universal, there are almost unlimited opportunities to be of service, to earn a good salary, or to establish a lucrative practice. There is an accelerating interdependence of health workers, with increased use of hospitals and a broader sharing of responsibilities among members of health teams. Demands for continuing medical education are being met so rapidly through the efforts of teaching institutions and professional societies that no current, complete listing of courses and meetings is available. Physicians, in particular, find refresher courses essential if they are to prevent their own obsolescence.

During the last few decades there have been many efforts to lure physicians out of urban and into rural areas. Even as these efforts have been mounted, migration to the cities has increased so steadily that demographers envisage 75% of the population concentrated in three large urban strips by 1980. Those who are highly skilled in medicine are influenced by more than the familiar charms of city life. Physicians object to the professional isolation which increases incrementally with each movement further away from a medical center. A good general hospital is a minimal requirement. For many, that alone is not enough. Because they have a wide choice of alternatives which include ample opportunities to use and improve their skills for the benefit of those who seek help, physicians select an environment which also meets their professional and family needs. The few studies which have been done strongly suggest that those who, on entering practice, shun the city do so because they kept their earliest home ties despite the long years away. But the hard fact remains, skilled health workers are needed everywhere, and the final site for practice or employment is by personal choice.

A number of programs have been established, here and abroad, to counter the movement of skilled health workers away from rural areas. They have included compulsory assignment of physicians to remote areas in societies where such compulsion is feasible, free education tied to service contracts with state governments, community guarantees sometimes embellished by newly built facilities, and preceptorships intended to appeal to medical students, none of which has been successful. Even the heavy-handed Soviet authorities have been unable to force adequate numbers

of physicians, or their supporting staffs, to remain in more remote areas. In any case, compulsory assignment is, for many reasons, an unattractive concept.

For sensible planning, it is now necessary for us to admit, however reluctantly, that the existing shortages and maldistribution of health manpower will persist. There is little reason to believe there will be any significant change for the better in the foreseeable future, regardless of the present strenuous efforts to expand the medical schools and other related educational institutions.

We have been thinking of health manpower only in its most literal sense. Our real concern is with health services, those traditionally provided by skilled people. Regardless of the availability of any other workers, the guidance and judgment of a physician is essential if good standards of care are to be maintained. There is no fixed pattern which regulates the ways in which one or more physicians meet the demands for care and there are many ways in which nurses or allied health personnel can provide their services.

Medical practitioners in the U.S. now have an average of at least nine allied health workers on whom they depend. In the ten years from 1955 to 1965, the physicians in private practice increased 12% while "physician-directed" services increased 81%.(1) Of the 3.5 million health workers in the country, about 300,000 are physicians and over 600,000 are registered nurses. (In addition, there are nearly 600,000 qualified nurses who are not active, half of whom have kept their licenses and

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(1) Report of the National Advisory Commission on Health Manpower, Vol. 1, November, 1967, p. 7.

registrations valid.) The health care system depends on much more than its manpower. It makes extensive use of transportation, telephones and other communications media, hospitals, nursing homes or other facilities, and, most importantly, the health education of the population served. In our society demand usually creates supply but the rapid increases in the demands for health services have far outstripped our capacity to supply adequate numbers of health workers, especially physicians. This phenomenon has heightened interest in critical analyses of the system through which health care is provided precipitating a number of innovative approaches to more productive uses of those whose skills are so urgently needed. Increased attention is now being given to all of the factors which affect the availability of medical care, including those which represent the kinds of community resources just mentioned. Although urban needs have attracted most of the attention, rural areas have not been neglected. Some of the newer, experimental arrangements through which health services are provided will be reflected in the comments which follow.

What are the resources available to rural areas in this country? Unfortunately, data on the distribution of all health manpower are inadequate. More is known about physicians than any other group, primarily through the extensive records of the AMA's Survey Research Department. Other studies have been made of the state or regional distribution of physicians in an attempt to produce a more functional analysis of reasonable accessibility to medical care. Fahs and Peterson have

published data[2] derived from their Upper Midwest Health Manpower Study, done at the request of the Regents of the University of Minnesota. They defined "remoteness" arbitrarily as a distance of 15 miles from a physician (although some consultants believed 40 miles was acceptable). In the four states surveyed (Minnesota, South Dakota, North Dakota, Montana) they found from 0.8% to 11.2% of the 1960 population lived over 15 miles from a physician. Variations were clearly related to population density and the economic growth or decline of towns. These states are among the lowest in the U.S. in the ratio of physicians to population (in 1967, e.g., South Dakota 1/1300, North Dakota and Montana 1/1100) and are among the largest in land area.

This is still only fragmentary information. To extend the health manpower head count to nurses or technicians, for example, would not add much to what little is already known unless analyzed with much more imagination and purpose than I have exhibited thus far. Let us rather consider first what more can be done through better uses of physicians, mostly general practitioners, scattered throughout the area in what cannot yet be called a network.

There is no magic ratio of physicians to population which determines adequacy of health services -- there is abundant evidence to the contrary. If each rural practitioner became the key figure in a highly efficient, well-coordinated health team, organized around the resources and needs of a defined area, the barriers to good health care could be strikingly reduced. If to this is added the carefully planned

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(2) Fahs, I.J., and Peterson, O.L., "Towns Without Physicians and Towns With Only One - A Study of Four States in the Upper Midwest". Journal of Public Health, July, 1968, Vol. 58, No. 7, pp. 1200-1211.

integration of specialists' services, full use of modern transportation, communications, and automation, the quality of services conceivably could become highly satisfactory even by exacting standards.

Now let us renew our search for health manpower, but this time geared to an area-wide health care system. Nowhere can this be done better than in the small towns with which we are most concerned. They can quickly identify their own nurses, active or retired, technicians, teachers who have health skills, or others who can be trained to perform relatively simple, but nonetheless critical, services. It is no great feat to obtain laboratory specimens which can be analyzed elsewhere within hours. It is equally simple now to do an electrocardiogram and have it interpreted at a distant medical center by telephone. A trained nurse or other specially trained assistant can relieve the physician of many similar time-consuming professional activities and allow him to use his professional skills much more productively. Unnecessary travel for both physicians and patients can be reduced and essential services accordingly can be more consistently provided.

The focus in these endeavors is on community consciousness. The greatest investments will be in deliberate planning based on a belief in the rights of all its citizens to have good health care. With modest expenditures small communities can establish efficient emergency care through the use of everything from a pool of private automobiles to well-equipped ambulances or (with greater expense) helicopters. With prudent screening in each locality, advance arrangements can be made to have groups of patients seen with the least possible loss of time, whether at the physician's office or in the patient's home.

There is strong encouragement in Federal legislation for all facets of a coordinated approach to area-wide planned health care. The "Partnership for Health Act" (P.L. 89-749) was passed with just this goal in mind. Regional Medical Planning (P.L. 89-239) will link manpower and facilities in many areas to elevate the capacity of all health workers to manage heart disease, cancer, stroke, and related diseases. The Highway Safety Act requires states to provide for continuous emergency care whenever it is needed. The Manpower Development and Training Act has designated almost a quarter of its funds in each state for the training of all levels of health workers. These and other relevant programs have been accepted and supported by all voluntary health groups, but thus far only a few are well established.

The elements of planning for rural health needs have only been sketched. What is most urgently required is a strategy for its development and implementation, an entirely local responsibility if it is to be successful. Public Law 89-749 provides for a consumer-dominated state agency, supplemented by similar community or regional planning groups, all designed to achieve the goal of good health care for all. As these are in their early stages of development there is nothing to prevent appropriate action now and every reason to avoid delay. There is no question that the situation can be greatly improved if those communities which have the most to gain will aggressively pursue the benefits they desire and merit.

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